

# CLOCK RECOVERY METHODS AND APPARATUS

## ABSTRACT

5           A source application executed within a source device may packetize and  
send source data over a link to a destination application executed within a  
destination device. In various embodiments, clock recovery processes are  
performed in conjunction with the destination application in order to synchronize  
the rates of source data production and consumption (e.g., playback). To facilitate  
10 the clock recovery process, a transport delay is calculated based on the difference  
between a source MAC-layer timestamp and a destination MAC-layer timestamp  
that envelop portions of the link that include variable delay elements. The transport  
delay is used by the clock recovery process to adjust a source application-layer  
timestamp, in one embodiment. In another embodiment, the transport delay is used  
15 by the destination device to impart a fixed cumulative transport delay on the source  
data before it is delivered to the destination application.

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